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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,007	09/28/2001	Naruhiko Kudo	NIS-12689	4824

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EXAMINER	
MCCLOUD, RENATA D	
ART UNIT	**PAPER NUMBER**
2837	

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

GA

Office Action Summary	Application No. 09/966,007	Applicant(s) KUDO ET AL.	
	Examiner Renata McCloud	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11* is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harlan (U.S. 6,285,146) in view of Chinomi et al (U.S. 6,256,181).

Claim 1: Harlan teaches a control circuit for regulating the rotational speed of a brushless fan motor (Fig. 2:102) including a stator and a rotor (Fig. 2: 122), a plurality of windings (Fig.2: 106,108), a position detector (Fig. 6: 660; Col. 18:7-10) a plurality of switches (Fig. 2: 114,118) connected in series to each winding (Fig. 2: 106,108), a drive circuit for outputting an on/off signal for the switches depending on an output from the position detector (Col. 18:7-14), a power feed semiconductor switch (Fig. 2: 130), between the windings (Fig. 2: 106,108) and the power supply (Fig. 2: 124), a control circuit (Fig. 2 : 150) for outputting a control signal to control the on/off operation of the power feed semiconductor switch (Col. 7:22-30), thereby controlling the speed of the rotor (Col. 7: 60-8:9); the control circuit controlling the on/off operation of the switch based on a value of a desired speed (Col. 7: 60-8:9); the control circuit constructed so that the switch may have an off time set shorter when a rotational speed is slower than the desired speed, and a longer off time when a speed is faster than the desired speed, and set as it is when a speed is substantially equal to the desired speed (Col. 8:6-9:19).

Harlan does not teach a rotational speed detecting means. Chinomi et al teach a rotational speed detector (e.g. Fig.1, #3; Column 2:22-26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Harlan to include the teachings of Chinomi et al. The advantage of this would be a fan motor driving system with improved voltage control.

Claim 3: Harlan and Chinomi et al teach the limitations of claim 1. Referring to claim 3, Chinomi et al teach until the rotational speed of the rotor is stabilized, the turn-off and turn-on time is set to a predetermined value (e.g. Column 4:25-30).

Claim 4: Harlan and Chinomi et al teach the limitations of claim 1. Referring to claim 4, Chinomi et al teach a power control circuit sets the target rotational speed to be slower than the maximum rotational speed and sets the turn-off time at zero so as to rotate the rotor at a maximum speed (e.g. Fig. 6).

Claim 5: Harlan and Chinomi et al teach the limitations of claim 1. Referring to claim 5, Chinomi et al teach the power feed semiconductor switch is turned off or an alarm in given when the rotational speed of the rotor does not reach a predetermined rotational speed (e.g. Column 8:28-31).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harlan and Chinomi et al as applied to claim 1 above, and further in view of Kambe et al (U.S. 6,211,635).

Claim 2: Harlan and Chinomi et al teach the limitations of claim 1. Referring to claim 2, Chinomi et al teach the rotational speed detecting means detecting a rotational speed of the rotor based on the output of a hall device (e.g. Abstract). They do not teach detecting magnetic flux. Kambe et al teach a hall device for detecting the magnetic flux of the plural permanent magnets is on the side of the rotor (e.g. Fig. 1, #2.), and the positional detector detecting the position of the rotor based on the output of the hall device (e.g. Fig. 1, #2). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify the apparatus taught by Harlan and Chinomi et al to include the teachings of Kambe et al. The advantage of this would be a fan motor driving system with improved stopping, starting, and voltage control, even when the fan is driven by an external force.

Allowable Subject Matter

4. Claim 11 is allowed. The following is a statement of reasons for the indication of allowable subject matter: The prior at made of record fails to teach a method of controlling a plurality of fan motors rotating at a normal speed, wherein when one of the fan motors is stopped, the remaining fan motors are set to rotate at a maximum speed.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are: McDaniel (U.S. 4,365,187), Muller (U.S.3,986,086), and Itami et al (U.S. 6,150,779).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (703) 308-1763. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Renata McCloud
Examiner
Art Unit 2837

RDM

ROBERT NAPPI
SUPERVISORY PATENT EXAMINER